# T E C H N I C A L  M E M O R A N D U M

Utah Coal Regulatory Program

January 9, 2006

TO: Internal File

THRU: D. Wayne Hedberg, Permit Supervisor, Task Manager

FROM: Peter H. Hess, Environmental Scientist III/Engineering, Team Lead

RE: Auxiliary Portal, Co-Op Mining Company, Bear Canyon #4 Mine, C/015/0025, Task ID #2379

**SUMMARY:**

The amendment to the mining and reclamation plan submitted as Task ID #2352 is a proposal to permit a third portal breakout from the Tank seam #4 Mine workings to the surface. Two portals currently exist, those being the main intake air portal, and the main return entry, which directly connects to the Mine's ventilation fan.

The escape entry that is being proposed would connect the 1st West Bleeder off of North Mains to the surface. The area exists in the NW1/4 SE1/4 of Section 24, T16S, R7E.

The Division generated a deficiency document on November 4, 2005 relative to this initial application.

The Division forwarded all information submitted by the Permittee as well as a copy of the review generated relative to Task ID #2352 to the U.S. Department of the Interior / Bureau of Land Management / Salt Lake Office on November 9, 2005. The Division received a BLM response relative to Task ID #2352 on December 2, 2005. Although the proposed breakout will occur in private coal on private ownership surface, the effective reclamation of this portal could affect the integrity of the Federal coal reserves that are in close proximity. Therefore, the BLM has made several comments that must be addressed by the Division as well as the Permittee.

The Permittee responded to the deficiencies on December 5, 2005. A hard copy of the deficiency response was received in the DOGM Price Field Office on December 21, 2005.

The Division's review of the December 5, 2005 deficiency response has been designated as Task ID #2379.

**TECHNICAL ANALYSIS;**

# OPERATION PLAN

## MINE OPENINGS

Regulatory Reference: 30 CFR Sec. 817.13, 817.14, 817.15; R645-301-513, -301-529, -301-551, -301-631, -301-748, -301-765, -301-748.

**Analysis:**

The application was initially submitted with two maps; Plate 2-4G, SURFACE FACILITIES, and PLATE 3-4C, TANK SEAM. Plate 3-4C depicts the Mine workings in the #4 Mine, which is located in the Tank seam. The deficiency response received by the DOGM on December 5, 2005, (Task ID #2379 review) contains additional plates 7-5A, WATERSHED MAP, Plate 7-7A, POST-MINING WATERSHED, and Plate 8-1A, SOILS MAP.

The application also contains revised text in red line / strike out form for the following pages; Chapter 3, pages 3-2, 3-86 and 3-87.

Revisions to page 3-2 discuss sealing and backfilling of portals associated with the Bear Canyon #1 and #2 Mines located on the west side of Bear Canyon. The proposed auxiliary portal for the #4 Mine is only briefly mentioned. The deficiency response received by the DOGM on December 5, 2005 indicates that this portal is described in **Appendix 3-Q, #4 Mine Auxiliary Portal**.

Page 3Q-1 of Appendix 3-Q, #4 Mine Auxiliary Portal indicates that the proposed portal will have multi-purpose uses, with the primary use being the monitoring of seeps and springs which are normally inaccessible during the winter months. A second use would possibly be as an intake portal, supplying additional fresh air to working faces. The proposed portal will only be used as an escape way in the unlikely event that the primary and secondary escape ways are blocked (these are located in the #4 Mine portal area) for whatever reason.

The Permittee's response to the November 4, 2005 deficiency document contains two alternatives for extricating any miners who would utilize the proposed portal located between the 1st West Bleeder entries and the surface of the left fork of the right fork of Bear Canyon. Page 3Q-1 of **Appendix 3-Q**, **#4 Mine Auxiliary Portal,** paragraph one, states that a helicopter would be used to deliver any miners to areas where ground personnel could assist them. The technical analysis response indicates that foot access will be established in this rugged area for the egress

of the miners. This would be established to connect this breakout with either the #3 Mine portal pad area, or the switchback where the coal stacking tube for the #3 Mine conveyor system is located, (verbal communiqué from CO-OP Mining Company management). The horizontal distance from the proposed breakout location (scaled from Plate 7-5A) to the #3 Mine portal pad is 1,540 feet. The distance to the #3 Mine conveyor stacking tube is approximately 1,600 feet.

Foot traffic access to this proposed breakout is probably acceptable in most instances. However, the Permittee needs to be aware that 30 CFR 75.380 also requires that disabled persons must be able to traverse any underground escape way in an expedient fashion. MSHA has the right to conduct a stretcher test to ensure that an injured miner can be efficiently extricated from the mine workings to the surface. 30 CFR 77.205 establishes the Federal requirements for travel ways at surface installations. The Division interprets 77.205, (a), (b), (c), (d) and (e) as applying to the safe egress of disabled persons, as well as the required stretcher-bearers. The Division does not have the regulatory authority to enforce 30 CFR 75 / 77.

Pages 3-86 and 3-87 are relative to the recalculation of the bond estimate for the Bear Canyon site. These will not be evaluated within this document.

The following R645 coal mining rules are relative to mine openings. Each will be briefly discussed. The regulations will be addressed according to how they relate to the operational plan, or the reclamation plan of the Bear Canyon Mines mining and reclamation plan.

# OPERATION PLAN

**R645-301-515.311; "**Each person who conducts UNDERGROUND COAL MINING and RECLAMATION ACTIVITIES will effectively support and maintain all surface access openings to underground openings, and secure surface facilities in which there are no current operations, but operations are to be resumed under an approved permit." The cover letter received from the Permittee with the application indicates the following relative to the proposed emergency escape way portal; "for this emergency portal we are not planning on doing any earthwork for a pad or portal structures. We are planning on just making a hole big enough for a man to crawl out of in case the main rock tunnels leading into the #4 Mine cave or are buried by an avalanche as they were during construction."

The Division feels that "a hole big enough for a man to crawl out of" does not meet the requirement of "effective support" mandated under **R645-301-515.311.** The Permittee must submit a description (beams, lagging, etc) of the method used to support the ground in the vicinity of the surface / mine entry interface.

The Permittee's response received on December 5, 2005 contains **Appendix 3-Q** that states on page **3Q-1** that effective support will be implemented to stabilize this area such that personnel can make safe egress from that entry. The method to stabilize the roof in that area will include roof bolts, matting, screens, cribbing, timber, and metal canopies.

**R645-301-529.100; "**Each shaft or other exposed underground opening will be cased, lined, **or otherwise managed as approved by the Division**". The proposed escape way portal connecting the 1st West Bleeder to the surface (#4 Mine workings) does not meet the escape way requirements mandated in 30 CFR Part 75.380. However, the Permittee does have two established escape ways in place that do meet the requirements of 30 CFR Part 75.380.

Although the Division does not have the authority to directly enforce 30 CFR Part 75.380, the Division does have the authority to require the Permittee to meet the same requirements mandated under 30 CFR Part 75.380 under the verbiage "or otherwise managed as approved by the Division". The Division requires the Permittee to meet the same requirements for escape ways as those established by 30 CFR Part 75.380. The Permittee states in **Appendix 3-Q,** page 3Q-1, paragraph 1, **#4 Mine Auxiliary Panel,** that in the unlikely event that it is necessary for the workmen to leave the underground workings via this auxiliary portal, "the miners will be extricated from the breakout area by a helicopter". Also, Appendix 3-1 is referenced relative to the surface access to the Blind Canyon Portal.

Appendix 5-M references a "foot-path" as the means of egress from the mountainside to a location where vehicles could be used to transport the men to medical facilities. It must be noted that 30 CFR 77.205, Travel ways at Surface Installations, (a-e) has established requirements for pathways which are to be used for ingress / egress from working places. The Division believes that these standards must be met, no matter the frequency of use. Therefore, the Division believes that "a foot-path" does not meet the requirements of 30 CFR 77.205.

**R645-301-512. Certification**
**R645-301-512.100; Cross Sections and Maps**
**R645-301-512.110; Mine workings to the Extent Known;**
**R645-301-512.120; Surface Facilities and Operations**

Although Plate 3-4C depicts the mine workings in the #4 Tank seam operation, the relationship of the proposed portal breakout to the surface is not depicted in a manner that can be understood on Plate 2-4G. Plate 2-4G shows the proposed portal breakout in a small four inch by four inch block in the upper left hand corner, Scale 1"=100 feet.

The Permittee needs to provide a legal description of the location of the proposed escape way portal, and depict the location of the proposed escape way portal in relationship to the #4

Mine portal pad. Both must be depicted on a topographic map of sufficient scale to allow any reviewer to obtain information necessary for this review.

The deficiency response received from the Permittee on December 5, 2005, contains additional plates 7-5A, WATERSHED MAP, 7-7A, POST MINING WATERSHED, and 8-1A, SOILS MAP. The location of the proposed auxiliary portal for the #4 Mine is depicted, and is located as follows; T16S, R7E, Section 24, NW1/4 SE1/4.

## HYDROLOGIC INFORMATION

Regulatory Reference: 30 CFR Sec. 773.17, 774.13, 784.14, 784.16, 784.29, 817.41, 817.42, 817.43, 817.45, 817.49, 817.56, 817.57; R645-300-140, -300-141, -300-142, -300-143, -300-144, -300-145, -300-146, -300-147, -300-147, -300-148, -301-512, -301-514, -301-521, -301-531, -301-532, -301-533, -301-536, -301-542, -301-720, -301-731, -301-732, -301-733, -301-742, -301-743, -301-750, -301-761, -301-764.

**Analysis:**

**Siltation Structures: Other Treatment Facilities**
**Siltation Structures: Exemptions**

The Permittee has not specifically addressed the method that will be used to control the sediment generated by the interception of precipitation by the proposed portal pad. The submittal does state that the proposed breakout is similar to the Blind Canyon portal (#1 Mine). Examination of Appendix 5-M, Blind Canyon Intake Portal states “any water falling on the pad will be contained with a berm”.

Because of the minute size of the proposed disturbance associated with this #4 Mine auxiliary portal, the Division does not need a proposed sediment control design which will meet the requirements of **R645-301-742.230, Other Treatment Facilities**. However, upon completion of the construction activities of the #4 Mine auxiliary portal, the Permittee must submit information relative to this alternate sediment control area which meets the requirements established by Tech Directive 003A. The Permittee must also update Appendix K of the Bear Canyon mining and reclamation plan to include the new alternate sediment control area.

**Findings:**

The minimum regulatory requirements of this section have been met.

# RECLAMATION PLAN

**R645-301-542.700; Final Abandonment of Mine Openings**

The original application did not contain a description as to how the proposed portal would be reclaimed. Chapter 5, page 5-30, Mine Entries, contains a general description of how the concrete block seals will be constructed, and that the seals will be constructed 25 feet inside the portal mouth entry. Page **3Q-2, Appendix 3-Q, #4 Mine Auxiliary Portal, Reclamation** (December 5, 2005 submittal) describes how the Permittee intends to establish approximate original contour and backfill the 25 foot length of entry which will exist between the seal and the surface. There is no machinery access to this proposed portal on the surface; therefore, all backfilling activities must occur from inside the Mine. Stored topsoil will be placed and spread using underground equipment such as skid-steer loaders and/or scoops/LHD's. Final placing of soils will be accomplished manually. Fill material will then be hauled through the Mine and placed in the entry, and compacted to the roofline. This will occur for a distance of 25 feet along the length of the entry. A permanent cement seal (it is assumed that the Permittee means a concrete block seal, as described on Page 5-30 of the approved MRP) will then be built in the portal (entry). Seeding and placement of erosion control matting will take place from the surface access footpath. All materials will require transportation to the backfilled area by personnel on foot.

**R645-301-551; Casing and Sealing of Underground Workings**

See the analysis above.

**R645-301-512.110; Mine workings to the Extent Known;**
**R645-301-301-512.120, Surface Facilities and Operations;**

The Permittee has provided Plate 7-5A which depicts the location of the proposed portal breakout as it will relate to the location of the #3 and #4 Mine portals. The proposed breakout is located in NW1/4 SE1/4 of Section 24, T16S, R7E. Plate 7-5A is a topographic map of sufficient scale.

**Findings:**

The application has successfully addressed the deficiencies aired in the November 4, 2005 technical analysis, and it should be approved.

## RECOMMENDATIONS:

The amendment should receive Division approval.